



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,344	11/28/2001	Johan Nilsson	0119-156	6069
42015	7590	04/21/2006		EXAMINER
POTOMAC PATENT GROUP, PLLC P. O. BOX 270 FREDERICKSBURG, VA 22404			BOCURE, TESFALDET	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/997,344	NILSSON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tesfaldet Bocure	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 07 February 2006.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-17 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date: _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Information Disclosure Statement***

1. The PCT search report received by the office on March 21, 2003 has been considered by the Examiner and has been included in Examiner's PTO 892.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 4-17 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.  
The claimed "determining the set of complex channel estimate based on the phase offset and the first set of channel estimate" in claims 4,7 and 14 is not disclosed as how the complex channel estimate is determined from the phase offset and the first channel estimate. Other than what is disclosed in page 19 with respect to figure 5 step 408, there is no mention in the disclosure as how the phase offset and the first channel estimate are used to generate the complex channel estimates.

4. Claims 5-6,8-13 and 15-17 are inherently rejected as being dependent on the rejected base claims. .

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Salonen et al. (US 6,611,675, of a record).

Salonen et al. (Salonen hereinafter) teaches a spread spectrum communication system for communicating broadband signal between the User Equipment (UE) and Base Unit (BU) (see fig. 1) wherein the UE comprising: receiving date over a common pilot channel and dedicated pilot channel from the BU; estimating the channel using both of the pilot channels; and measuring the phase offset from the estimated channels as in claims 1-3. See col. 4, lines 16-68 and figs 2A and 2B.

The phase offset of the is measured from previously estimated phase offset between antennas measured from the channel estimation of the first and second pilot signal

corresponding to the dedicated channel and common channels (see starting col. 1, line to col. 2 line 20 starting col. 3, line 38 to col. 4, lines 38). The user equipment UE2 uses the received pilot signal from the dedicated channel and the common channel to verify the antenna phase shift previously transmitted antenna phase shift through the feedback to the base unit by channel estimating of both the pilot signals (see col. 3, lines 38-58) and the previously transmitted antenna phase shift weight W1 and W2 was calculated by using the channel estimation of the previously transmitted pilot signals as is the case in the current application disclosed in paragraph [0060-0061].

***Response to Amendment***

7. In response to Applicant's argument with respect to claims 1-3 that the prior art of record Salonen et al. does not teach the claimed "determining an estimate of the phase offset based on a set of a first and second antenna estimates derived from the first and second set of channel estimates respectively" in claim 1, as indicated in the office action above with respect to the rejection of claim 1, the user equipment UE2 in the system Salonen uses the received pilot signal from the dedicated channel and the common channel to verify the antenna phase shift previously transmitted through the feedback to the base unit by channel estimating of both the pilot signals (see col. 3, lines 38-58) and the previously transmitted antenna phase shift weight W1 and W2 was calculated by using the channel estimation of the previously transmitted pilot signals as is the case in the current application disclosed in paragraph [0060-0061]. Therefore the previously transmitted antenna-weighting signal to be used by the current channel estimation,

having a phase offset, is calculated from the previously calculated channel estimation based on the received pilot signals (emphasis mine).

8. Applicant's argument with respect to the 112 first paragraph rejection to claims 4-17 does not address how the complex channel is estimated from the 'phase offset' and 'the first set of channel estimate'. It should be noted as claimed, the complex channel estimation is determined from two variables, namely the phase offset which is determined from the first and second antenna phase estimates and first and second channel estimate, and the first channel estimate from the received first channel. Nowhere in the specification is disclosing that the complex channel estimation as been determined from the two variables as mentioned above.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent numbers 6,754473 and 6839326 issued to Choi et al. and Panjukoski et al. respectively disclose a user equipment estimating the channel response from the received dedicated pilot channel and common pilot channel.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 2611

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-3015. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

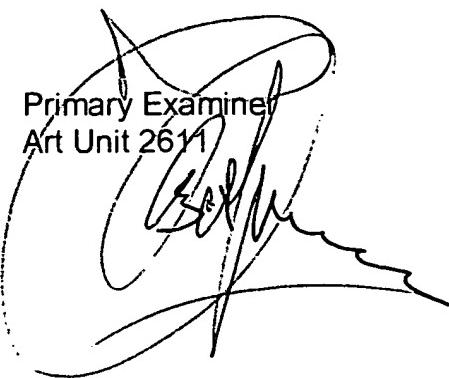
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti (Jay) Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tesfaldet Bocure

T.Bocure

Primary Examiner  
Art Unit 2611

A handwritten signature in black ink, appearing to read "T. Bocure". The signature is fluid and cursive, with a large, stylized 'B' at the beginning.